EXHIBIT 9

Lab - Researching Converged Network Services (Instructor Version)

Instructor Note: Red font color or Gray highlights indicate text that appears in the instructor copy only.

Objectives

Part 1: Survey Your Understanding of Convergence

Part 2: Research ISPs Offering Converged Services

Part 3: Research Local ISPs Offering Converged Services

Part 4: Select Best Local ISP Converged Service

Part 5: Research Local Company or Public Institution Using Convergence Technologies

Background / Scenario

Convergence in the context of networking is a term used to describe the process of combining voice, video, and data communications over a common network infrastructure. Converged networks have existed for some time, but were only feasible in large enterprise organizations because of the network infrastructure requirements and complex management required to make them work seamlessly. Technology advances have made convergence readily available to large, medium, and small businesses, as well as for the home consumer.

In Part 1, you will describe your current understanding of convergence and any experience you have with it.

In Part 2, you will research which providers have this service, regardless of geographical location, using the predefined form included in the lab.

In Part 3, you will research which local ISPs in your area offer converged services for end-user consumers, using the predefined form included in the lab.

In Part 4, you will select the ISP you like best for home use and list the reasons why.

In Part 5, you will find a local company or public institution using convergence technologies in their business, using the predefined form included in the lab.

Required Resources

Device with Internet access

Part 1: Survey Your Understanding on Convergence

Instructor Note: In Part 1, the instructor may wish to lead a discussion with students on their understanding of convergence, its definition and the possible technologies used. This lab may be assigned as homework.

Step 1: Describe convergence as you understand it and give examples of its use in the home.

Write a definition of convergence and list some examples.

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Convergence - Converged networks are capable of delivering voice, video streams, text, and graphics between many different types of devices over the same communication channel and network structure. On a converged network, there are still many points of contact and many specialized devices such as personal computers, phones, TVs, and tablet computers, but there is one common network infrastructure. An example of a converged network at home is a Triple Play service from Charter.com. Voice, Video (TV) and phone are bundled together and come into the home on one cable, typically hybrid fiber coax.

Part 2: Research ISPs Offering Converged Services

In Part 2, you research and find two or three ISPs who offer converged services for the home, regardless of geographical location.

Step 1: Research various ISPs that offer converged services.

List some of the ISPs that you found in your search.

Comcast

Charter

AT&T

Step 2: Fill in the following form for the ISPs selected.

Internet Service Provider	Product Name of Converged Service
Comcast	Xfinity Triple Play
Time Warner Cable	TV, Internet,and Phone
AT&T	AT&T U-verse

Part 3: Researching Local ISPs Offering Converged Services

In Part 3, you research and find two or three local ISPs who offer converged services for the home in your geographic area.

Step 1: Research various ISPs that offer converged services.

List some of the ISPs that you found in your search.

Answers will vary based on geographic location.

Step 2: Fill in the following form for the ISPs selected.

Internet Service Provider	Product Name of Converged Service	Cost per Month	Download Speed
Comcast	Xfinity Triple Play	$89.99	Varies 10 to 16 Mbps
Time Warner Cable	TV, Internet,and Phone	$99.99	10 Mbps
AT&T	U-Verse	$59.00	3Mbps Download

Part 4: Select Best Local ISP Converged Service Offering

Select your top choice from the list of local ISPs that you selected and give reasons why you chose that particular one.

Answers will vary and will be typically based on price per month and relative priority of Internet speeds versus number of TV channels offered in the basic packages. Student may choose Comcast for higher download speeds for Internet. Emphasize to students that home users' priorities can affect their choice of service. For example, users who stream movies exclusively may want higher download speeds versus a user who mainly does casual surfing of the Internet and checks email.

Part 5: Research Local Company or Public Institution Using Convergence Technologies

In Part 5, you research and locate a company in your area that currently uses convergence technologies in their business.

Step 1: Research and find a local company using convergence.

In the following table, list the company, industry, and convergence technologies used.

Name of Company	Industry	Convergence Technologies
Cisco Systems, Inc.	Information Technology	Phone, Video, Data
Woodward, Inc.	Aerospace	Phone, Video, Data

Reflection

1. What are some of the advantages of using convergence technologies?

Blending voice, video and data signals onto one communication infrastructure allows companies to better manage the technology since the network will use a common set of rules and standards. The need for separate distribution equipment for offering voice and data will no longer be necessary.

2. What are some of the disadvantages of using convergence technologies?

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Until the technologies fully mature, configuration and management of voice, video and data flowing on one channel can be a challenge. Giving voice precedence over data using Quality of Service (QoS) technologies can be quite complex for companies that don't have trained IT personnel on staff.